VOLKSWAGEN

AKTIENGESELLSCHAFT

VAS 5054A Remote Diagnosis Head

User Manual, VAS 5054A V1.06

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1 General Information

1.1 How to Use This Manual

This manual provides information about the following topics:
- Installing, configuring and operating the VAS 5054A Remote Diagnosis Head
- Technical specification of the VAS 5054A (in the Appendix)

The VAS 5054A User Manual is provided in the *Help* directory on the installation CD of the Volkswagen diagnostic tools. After installation is complete, you can open the User Manual by clicking *VAS5054 Manual* in the program group of your diagnostic application on the Windows Start menu.

Note

Due to further development of the software, the screenshots included in this document may differ slightly from what you see on screen.

The screenshots are shown in English in this manual. As the Bluetooth software and the diagnostic applications support multiple languages, the user interface during installation in many cases will be displayed in the language of your operating system. If the language version of your operating system is not supported, the user interface will be shown in English.

1.2 Features and Application Areas

The VAS 5054A Remote Diagnosis Head provides Volkswagen diagnostic applications with easy-to-use wireless access to the onboard vehicle systems.

With its compact design, its integrated diagnostic connector and its wireless connection via Bluetooth, the VAS 5054A is the perfect choice for servicing, production and road tests in particular.

Special features:
- Bluetooth and USB interface to the PC
- Housing with integrated diagnostic connector
- Reliable and efficient handling of diagnostic protocols in the VAS 5054A
- Power supplied by vehicle, thus saving notebook battery power during mobile operation
- Power management ensures load reduction for the vehicle battery during downtimes
- Status display

1.3 Delivery Scope

The Remote Diagnosis Head is supplied in a carrying case containing the following components:

1 VAS 5054A Remote Diagnosis Head
1 USB cable (VAS5054/1)
1 Optional CD with diagnostic application
incl. User Manual for VAS 5054A in PDF format

Optionally available: Recommended VAS5054/2 Bluetooth adapter

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1.4 Notes

- Follow the instructions in chapter 3 step by step to ensure proper installation.
- Do not open the housing of the VAS 5054A. In case of defect, please return the VAS 5054A to Softing for servicing. The service address is given in chapter 7.8, Support.
- Use only the accessories supplied with the device.
- Keep in mind to disconnect the VAS 5054A from the vehicle's diagnostic connector when you are finished. The VAS 5054A draws power when connected to the vehicle. It may drain the vehicle's battery if you leave it connected for an extended period of time after the ignition is turned off. Take advantage of the VAS 5054A's power-save features and have the device power off automatically or sound an alarm after a specified period of non-use. For details see chapter 5.

Cleaning and care

- Protect the contacts of the diagnostic connector from dust and dirt. Keep the VAS 5054A in the carrying case when not in use.
- Make sure the cover for the USB port of the VAS 5054A is closed.
- Protect the VAS 5054A from temperatures above 80 °C. For example, do not leave it on the vehicle's dashboard in direct sunlight.
- Even though the device is protected against splash water, contact with water or corrosive substances should be avoided.
- Avoid excessive shock.

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2 Application and Use of the VAS 5054A

2.1 Properties

The VAS 5054A is a universal diagnostic interface for the vehicles of the Volkswagen Group and all OBD vehicle systems from other manufacturers. The integrated Bluetooth interface connects the vehicle with a notebook, desktop PC or test system. No cables are needed for vehicle diagnostics using the VAS 5054A.

The range of the wireless Bluetooth connection is 5 to 10 meters, depending on the environment and the type of Bluetooth adapter used on the PC side.

The Serial Port Profile (SPP) is used for data transfer via Bluetooth. Different Bluetooth security levels are supported.

The following vehicle bus systems are supported:

- K line (ISO9141-2)
- High-speed CAN (ISO 11898-2)
- Low-speed CAN (ISO 11898-3)
- J1850 (SAE J1850)

The vehicle protocols are handled directly in the VAS 5054A. This ensures fast response times and a reliable real-time behavior independently of the PC operating system.
Every time a connection is established, the VAS 5054A software is synchonized with the version installed on the application PC. The VAS 5054A thus automatically adopts any new features provided after a new software version has been installed on the application PC.

2.2 System Requirements

To operate the VAS 5054A, your computer must meet the following system requirements:

- PC, notebook, 100% IBM compatible
- Operating system Windows XP Service Pack 2.
- Installation requires administrator rights.
- The computer must have a Bluetooth interface that supports the *Bluetooth Serial Port Profile*.
- One free USB port (for special applications such as configuring the VAS 5054A or if wireless communication is not permitted).

Note

The Windows NT4, Windows 95/98/ME and Windows Vista operating systems are not supported by the VAS 5054A driver software.
To use the VAS 5054A with Windows 2000, see FAQ 1 in the Appendix.

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2.3 System Overview

The diagnostic application and the associated Diagnostic Base System are installed on the application PC. The Diagnostic Base System can access the VAS 5054A via Bluetooth or USB.

Access via Bluetooth:

After a connection to the VAS 5054A has been set up, the Bluetooth software provides a virtual serial COM port (Bluetooth Serial Port Profile). The Diagnostic Base System uses this COM port to communicate with the VAS 5054A. You need to specify this port when you install the diagnostic application.

Access via USB:

You can also connect the VAS 5054A to the application PC by using the supplied USB cable. Windows detects the VAS 5054A through Plug and Play, and automatically installs the drivers copied when you installed the diagnostic application. Setup of the VAS 5054A is then complete and the device is ready for use by the diagnostic application.

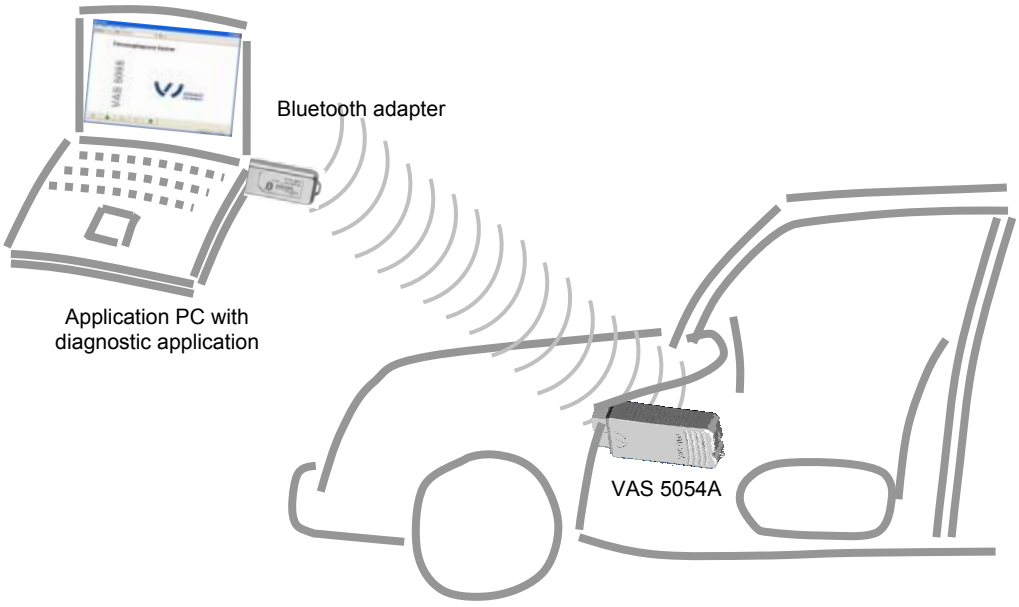

Fig. 2-1 Overview of a Bluetooth connection

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3 Installation and Setup

To install, please take the following steps which are described in detail further below:

1. Connect the VAS 5054A to the vehicle.
2. Install the Bluetooth adapter on the application PC.
3. Configure the Bluetooth adapter software: Security settings.
4. Set up a connection to the VAS 5054A.
5. Install the application software.
6. Change the PIN for the VAS 5054A.

Note

You need administrator rights to run the setup programs on the application PC.

3.1 Connecting the VAS 5054A to the Vehicle

When you plug the VAS 5054A into the vehicle's diagnostic connector, the VAS 5054A is supplied with power and ready for use. The blue status indicator on the front of the Bluetooth Diagnostic Head flashes every second.

You can connect the VAS 5054A to the application PC or repair shop tester either wirelessly via Bluetooth or by using a USB cable. As soon as a connection to the PC has been established, the status indicator is on continuously. During data exchange via Bluetooth or USB, the status indicator flashes according to data volume.

3.2 Installing the Bluetooth Adapter and Bluetooth Software on the Application PC

To communicate with the VAS 5054A, the application PC must have a Bluetooth adapter installed. Some application PCs (e.g. modern notebooks) feature a built-in Bluetooth interface. If your PC does not have Bluetooth, you need to install a Bluetooth adapter or Bluetooth PC card.

In that case, you can order the VAS 5054A together with a suitable Bluetooth USB adapter (VAS5054/2). The following description of how to configure the Bluetooth software refers to this adapter.

For information on installing and setting up the VAS 5054A using Bluetooth software from other manufacturers, please see FAQ 7 in the Appendix. Please also note the limitations detailed in that section with regard to operating the VAS 5054A with those software versions.

Installing the VAS5054/2 Bluetooth USB adapter

Follow the instructions below if you will be using the Bluetooth software that comes with Windows XP Service Pack 2. You will need a Bluetooth adapter that can be found by Windows XP. New adapter models might not be supported by Windows XP. Therefore, it is recommended to use the VAS5054/2 Bluetooth adapter that is available as an option.

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The following instructions apply only when you are installing the recommended Bluetooth adapter, using the Bluetooth software supplied with Windows XP Service Pack 2:

1. Start up Windows XP and log on with a user account with administrator rights.
2. Plug the Bluetooth adapter into a USB port on your computer.

Note

Please always use the same USB port for your Bluetooth USB adapter. Windows will install other COM ports if you connect the Bluetooth USB adapter to a different USB port. Your diagnostic application will not work in that case.

3. Windows XP SP2 automatically detects the VAS 5054/2 Bluetooth adapter and installs the appropriate drivers.

Fig. 3-1 Windows XP Service Pack 2 automatically detects the Bluetooth adapter

After a while, a message informs you that the adapter has been successfully installed (Fig. 3-2). You can now set up a Bluetooth connection to the VAS 5054A.

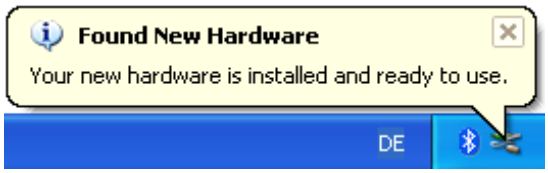

Fig. 3-2 Windows XP Service Pack 2 automatically installs the Bluetooth adapter

3.3 Configuring the Bluetooth Security Settings

For security reasons, it is essential to make the following settings in the Bluetooth software in order to prevent unauthorized access to the application PC from the outside.

Open *Bluetooth Devices* in Control Panel. Go to the *Options* tab and disable the *Allow Bluetooth devices to connect to this computer* check box in the *Connections* section for security reasons. It is recommended to enable the *Show the Bluetooth icon in the notification area* check box (see Fig. 3-3). The Bluetooth icon is then permanently displayed in the notification area of the taskbar.

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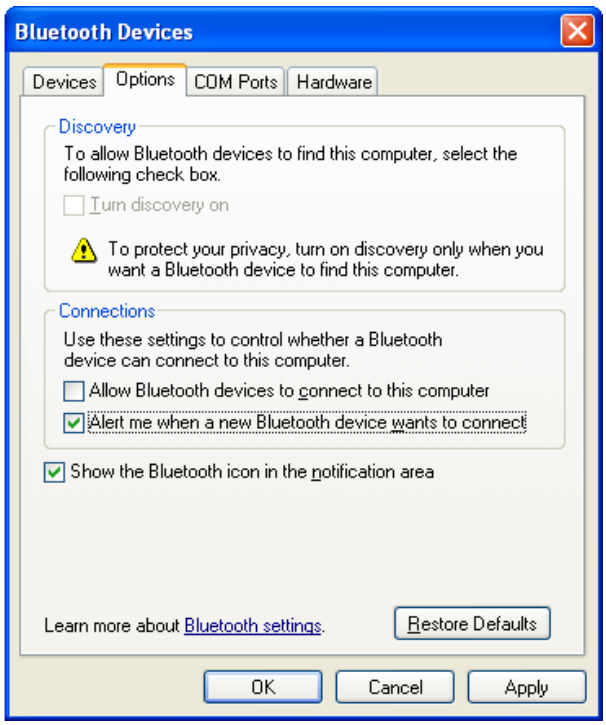
Bluetooth Devices
Devices
Options
COM Ports
Hardware
Discovery
To allow Bluetooth devices to find this computer, select the following check box.
Turn discovery on
To protect your privacy, turn on discovery only when you want a Bluetooth device to find this computer.
Connections
Use these settings to control whether a Bluetooth device can connect to this computer.
Allow Bluetooth devices to connect to this computer
Alert me when a new Bluetooth device wants to connect
Show the Bluetooth icon in the notification area
Learn more about Bluetooth settings.
Restore Defaults
OK
Cancel
Apply

Fig. 3-3 Bluetooth software settings of Windows XP Service Pack 2

3.4 Setting up a Connection to the VAS 5054A

1. Open *Bluetooth Devices* in Control Panel. On the *Devices* tab, you can search for Bluetooth devices in range. Please note that the VAS 5054A has to be plugged into the vehicle's diagnostic connector for power supply. Click **Add…**. A dialog box opens. Check the *My device is set up and ready to be found* box (see Fig. 3-4) and then click **Next>**.

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Add Bluetooth Device Wizard
Welcome to the Add Bluetooth Device Wizard
Before proceeding, refer to the "Bluetooth" section of the device documentation. Then set up your device so that your computer can find it:
- Turn it on
- Make it discoverable (visible)
- Give it a name (optional)
- Press the button on the bottom of the device (keyboards and mice only)
My device is set up and ready to be found.
Add only Bluetooth devices that you trust.
< Back
Next >
Cancel

Fig. 3-4 Confirmation that the VAS5054A is ready

2. The wizard scans the range for Bluetooth devices and displays the devices found (Fig. 3-5). Select your VAS 5054A and click **Next>**.

Note

If your VAS 5054A is not listed, please make sure that:

- the VAS 5054A is supplied with power from the vehicle's diagnostic connector (flashing status indicator next to the USB connector on the VAS 5054A),
- the VAS 5054A is within range (the distance between PC and VAS 5054A should not exceed 10 meters),
- the VAS 5054A is not connected to the PC via USB,
- the VAS 5054A is not currently connected to another PC via Bluetooth.

Click **Search Again**.

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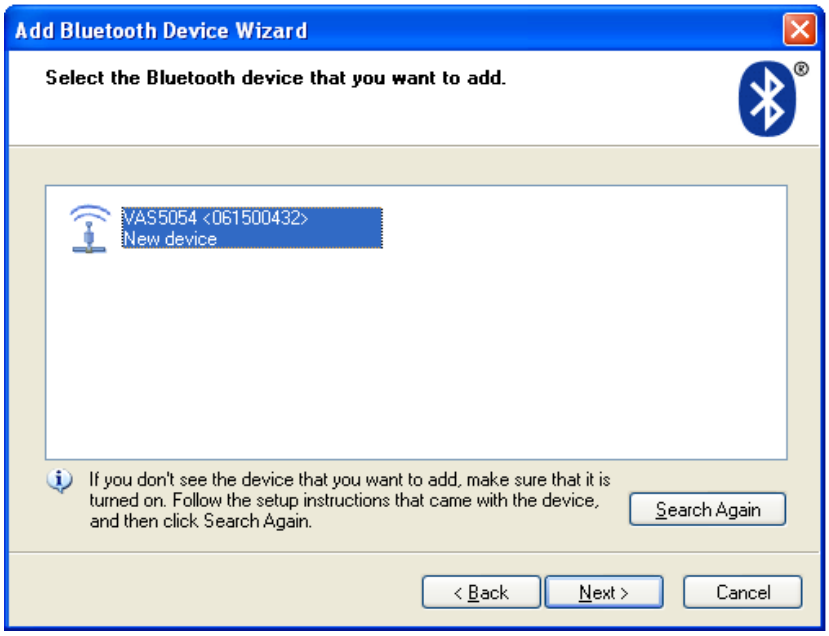
Add Bluetooth Device Wizard
Select the Bluetooth device that you want to add.
VAS5054 <061500432>
New device
If you don't see the device that you want to add, make sure that it is turned on. Follow the setup instructions that came with the device, and then click Search Again.
Search Again
< Back
Next >
Cancel

Fig. 3-5 Finding Bluetooth devices

3. Enter the passkey (Bluetooth PIN) (Fig. 3-6). The device is delivered with the PIN preset to the serial number given on the device. Confirm your entry with **Next>**.

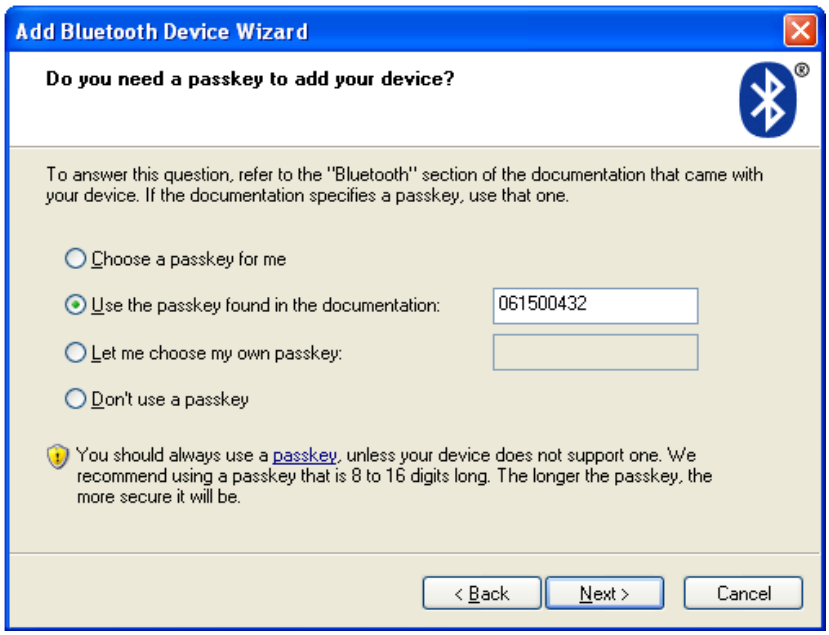
Add Bluetooth Device Wizard
Do you need a passkey to add your device?
To answer this question, refer to the "Bluetooth" section of the documentation that came with your device. If the documentation specifies a passkey, use that one.
Choose a passkey for me
Use the passkey found in the documentation:
061500432
Let me choose my own passkey:
Don't use a passkey
You should always use a passkey, unless your device does not support one. We recommend using a passkey that is 8 to 16 digits long. The longer the passkey, the more secure it will be.
< Back
Next >
Cancel

Fig. 3-6 Entering the passkey

4. A Bluetooth serial port is installed on your PC (in Fig. 3-7: COM3). Please note down the number of the outgoing COM port. Click **Finish**.

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Add Bluetooth Device Wizard
Completing the Add Bluetooth Device Wizard
The Bluetooth device was successfully connected to your computer. Your computer and the device can communicate whenever they are near each other.
These are the COM (serial) ports assigned to your device.
Outgoing COM port: COM3
Incoming COM port: COM4
Learn more about Bluetooth COM ports.
To close this wizard, click Finish.
< Back
Finish
Cancel

Fig. 3-7 The newly configured COM port is displayed

3.5 Installing the Diagnostic Application

1. Make sure you have logged on with a user account with administrator rights before you start installing. Uninstall previous versions of your diagnostic application. Start the **Setup.exe** program on the CD that came with your diagnostic application (e.g. VAS 5065). Click **Next>** to continue installation.

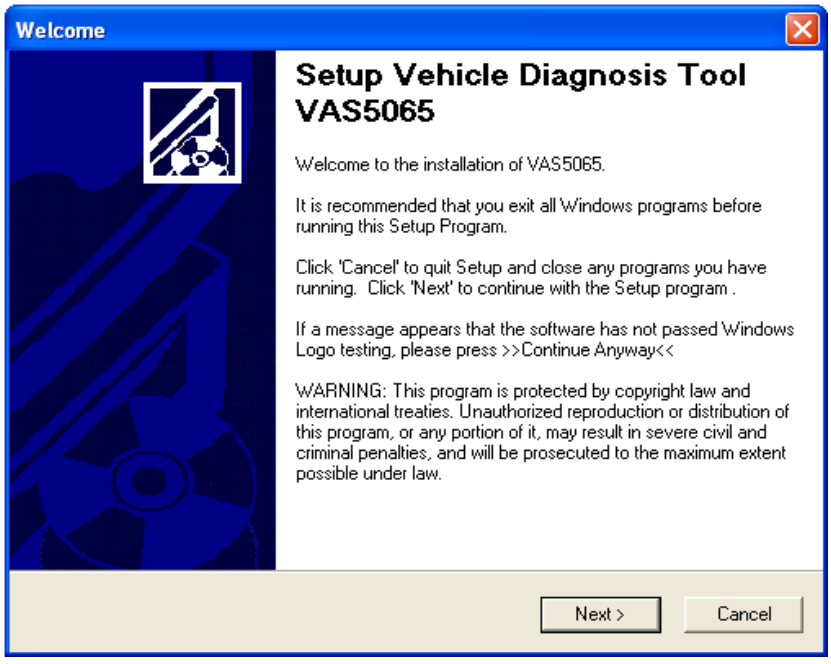
Welcome
Setup Vehicle Diagnosis Tool VAS5065
Welcome to the installation of VAS5065.
It is recommended that you exit all Windows programs before running this Setup Program.
Click 'Cancel' to quit Setup and close any programs you have running. Click 'Next' to continue with the Setup program .
If a message appears that the software has not passed Windows Logo testing, please press >>Continue Anyway<<
WARNING: This program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Fig. 3-8 Welcome screen of the setup program of the diagnostic application (here: VAS5065)

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2. Select *VAS 5054* as the diagnostic interface.

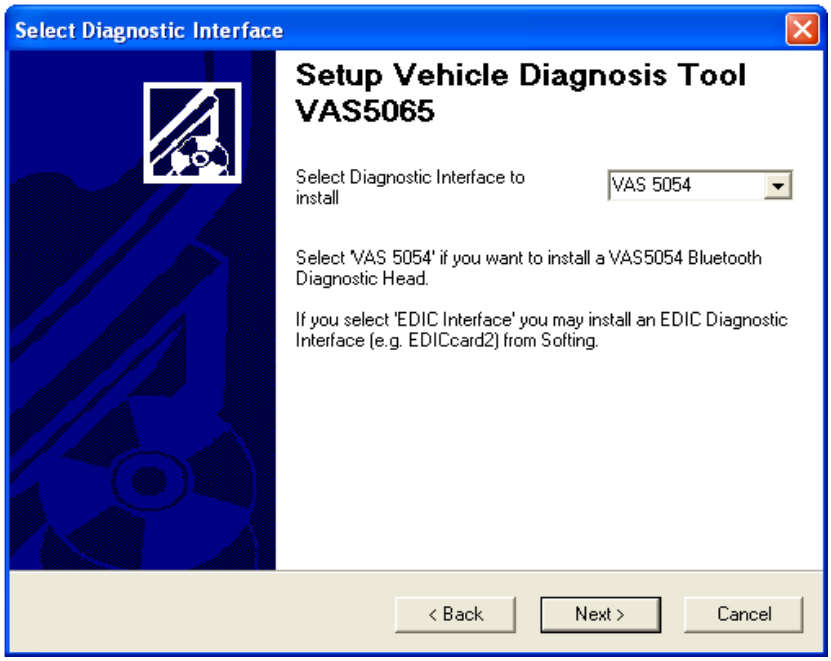
Select Diagnostic Interface
Setup Vehicle Diagnosis Tool
VAS5065
Select Diagnostic Interface to install
VAS 5054
Select 'VAS 5054' if you want to install a VAS5054 Bluetooth Diagnostic Head.
If you select 'EDIC Interface' you may install an EDIC Diagnostic Interface (e.g. EDICcard2) from Softing.
< Back
Next >
Cancel

Fig. 3-9 Selecting the diagnostic interface

3. Confirm that Bluetooth has been installed on your system. How to install the Bluetooth adapter is described in section 3.2.

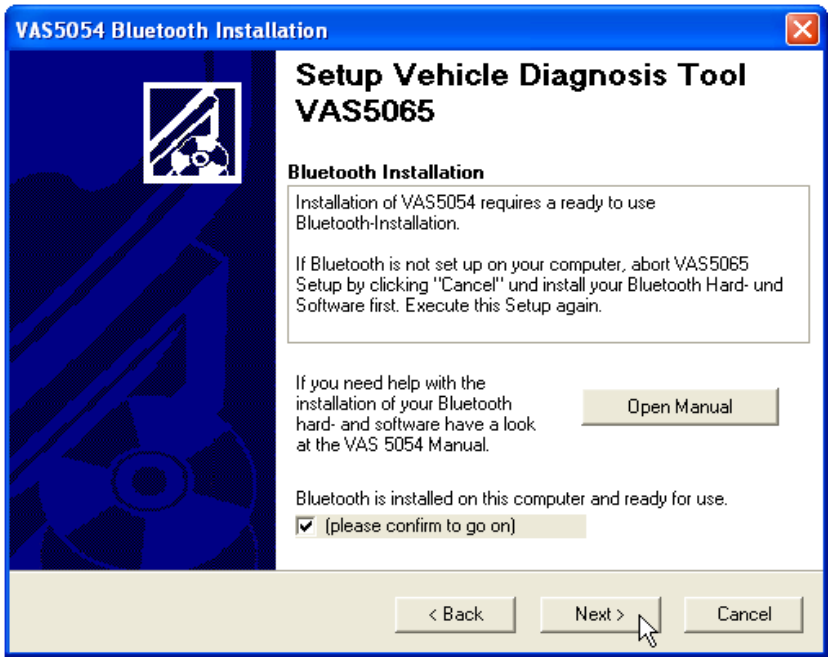
VAS5054 Bluetooth Installation
Setup Vehicle Diagnosis Tool
VAS5065
Bluetooth Installation
Installation of VAS5054 requires a ready to use Bluetooth-Installation.
If Bluetooth is not set up on your computer, abort VAS5065 Setup by clicking "Cancel" und install your Bluetooth Hard- und Software first. Execute this Setup again.
If you need help with the installation of your Bluetooth hard- and software have a look at the VAS 5054 Manual.
Open Manual
Bluetooth is installed on this computer and ready for use.
(please confirm to go on)
< Back
Next >
Cancel

Fig. 3-10 Confirmation that Bluetooth is installed and ready for use

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4. Confirm that your VAS 5054A has been connected via Bluetooth. How to establish a connection to the VAS 5054A is described in section 3.2.

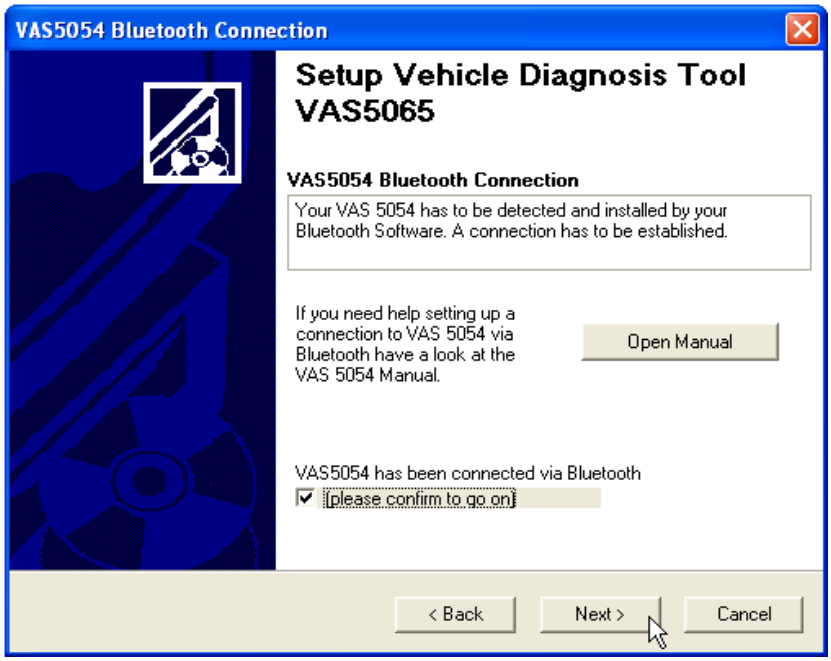
VAS5054 Bluetooth Connection
Setup Vehicle Diagnosis Tool VAS5065
VAS5054 Bluetooth Connection
Your VAS 5054 has to be detected and installed by your Bluetooth Software. A connection has to be established.
If you need help setting up a connection to VAS 5054 via Bluetooth have a look at the VAS 5054 Manual.
Open Manual
VAS5054 has been connected via Bluetooth
[please confirm to go on]
< Back
Next >
Cancel

Fig. 3-11 Confirmation that a connection to the VAS 5054A has been set up

5. Leave the default component selection unchanged and click **Next>** to continue installation.

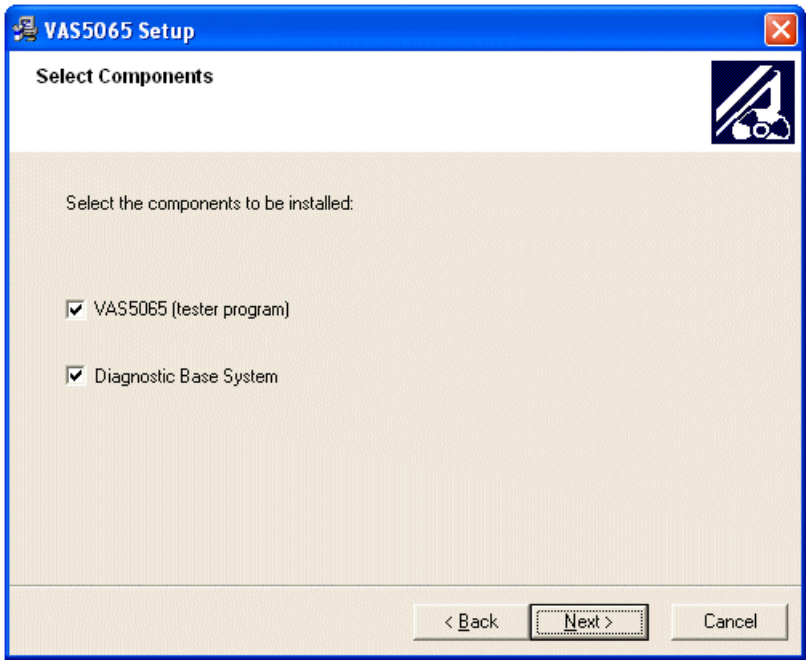

Fig. 3-12 Selecting the components to be installed

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6. Select the destination folder in which you want to install the Diagnostic Base System. The Diagnostic Base System consists of the following components: EDIABAS with control unit description files, DTS, and the EDIC and VAS 5054A driver software. The default folder is *C:\DBaseSys*. Click **Next>** to continue installation.

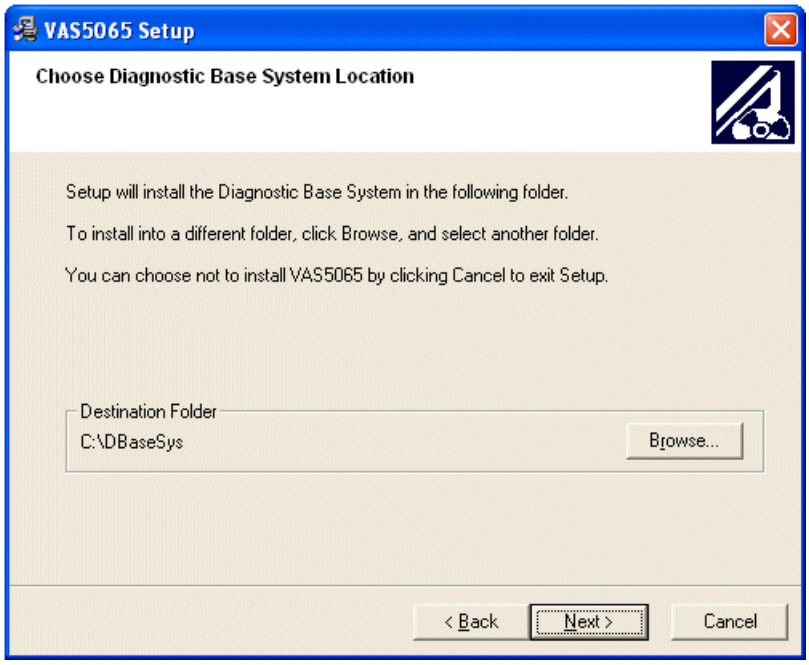
VAS5065 Setup
Choose Diagnostic Base System Location
Setup will install the Diagnostic Base System in the following folder.
To install into a different folder, click Browse, and select another folder.
You can choose not to install VAS5065 by clicking Cancel to exit Setup.
Destination Folder
C:\DBaseSys
Browse...
< Back
Next >
Cancel

Fig. 3-13 Destination folder for installing the Diagnostic Base System

7. Choose the Program Manager Group. If required, you may select the appropriate group from the list of existing Program Manager Groups or you can use or edit the default preset by the setup program. Continue installation with **Next>**.

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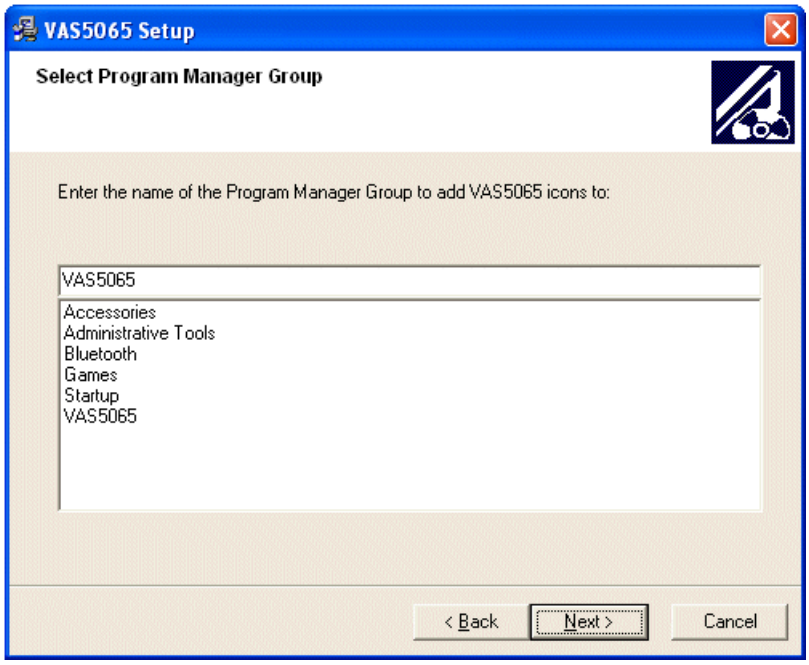

Fig. 3-14 Selecting the Program Manager Group

8. Select the destination folder in which you want to install your self-diagnosis application. Click **Next>** to continue installation.

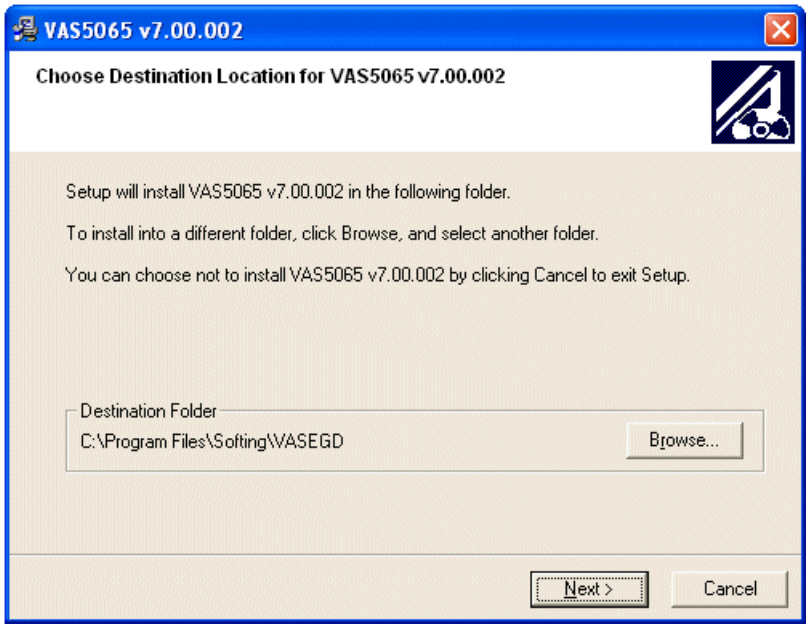
VAS5065 v7.00.002
Choose Destination Location for VAS5065 v7.00.002
Setup will install VAS5065 v7.00.002 in the following folder.
To install into a different folder, click Browse, and select another folder.
You can choose not to install VAS5065 v7.00.002 by clicking Cancel to exit Setup.
Destination Folder
C:\Program Files\Softing\VASEGD
Browse...
Next >
Cancel

Fig. 3-15 Selecting the destination folder for installing the self-diagnosis application

9. Toward the end of the installation process, the drivers for the diagnostic interface are installed. This may take a while (Fig. 3-16).

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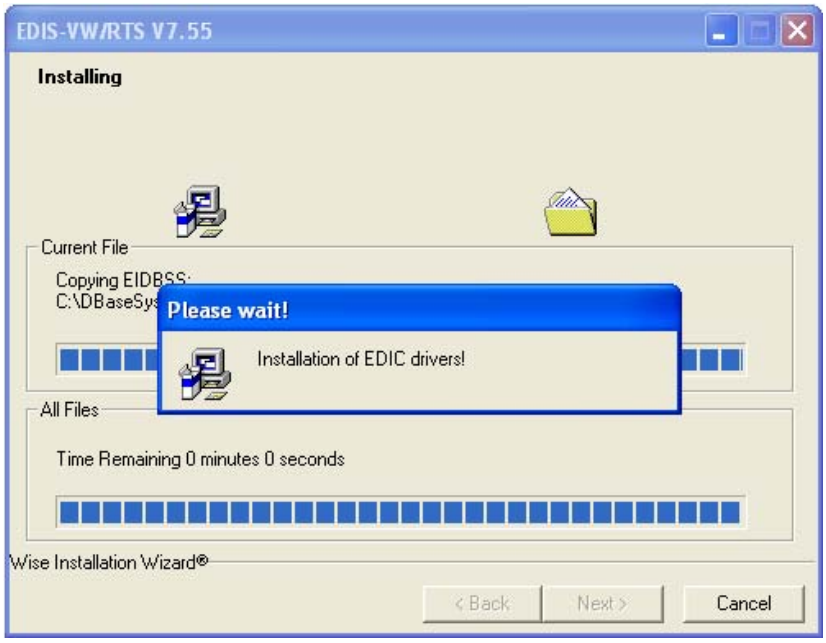

Fig. 3-16 Installing the drivers for the diagnostic interface

10. When the *Select EDIC to install* message appears, select **VAS 5054** as the interface.

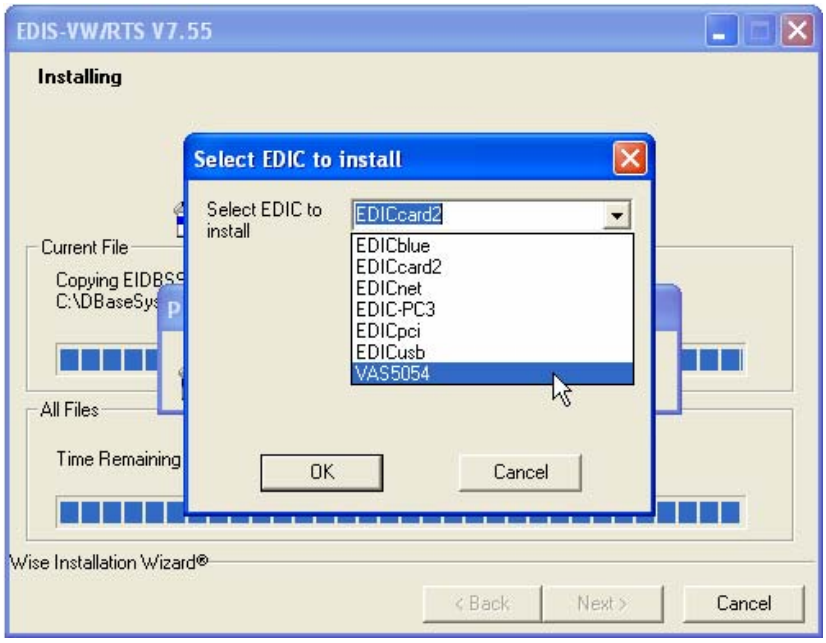

Fig. 3-17 Selecting the desired diagnostic interface: VAS 5054

If this message is not displayed, a different EDIC is currently connected to your system or an EDIC or a VAS 5054A was configured at a earlier time. Conclude the installation. Then click **EDIC Hardware Installation** in the program group of the diagnostic application and add the VAS 5054A manually (see section 3.7).

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11. Make sure the VAS 5054A has been correctly configured in your Bluetooth software and is within your PC's range. Click **OK**.

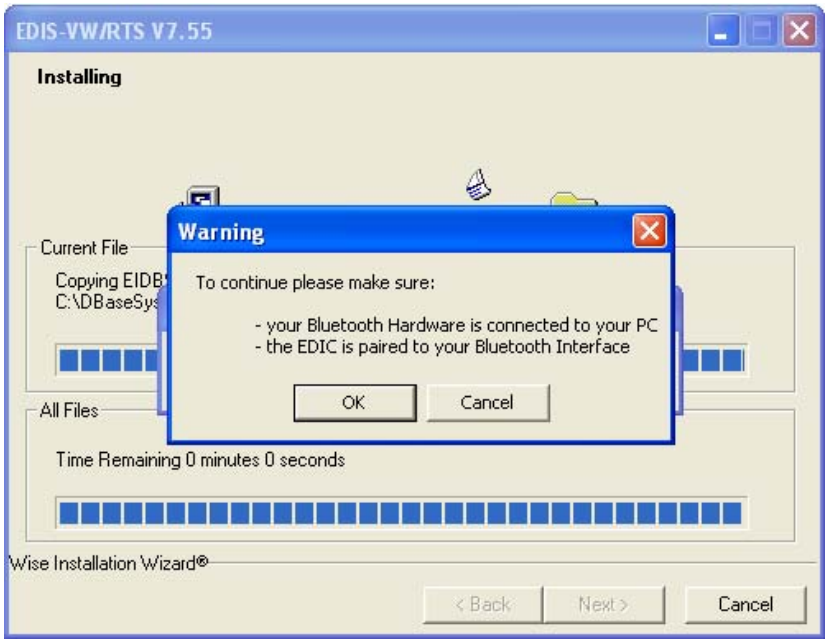

Fig. 3-18 Message informing you that the Bluetooth adapter has to be installed and a connection to the diagnostic interface has to be set up

12. Select the COM port that was displayed when you configured the VAS 5054A in your Bluetooth software. Finish the installation with **OK**.

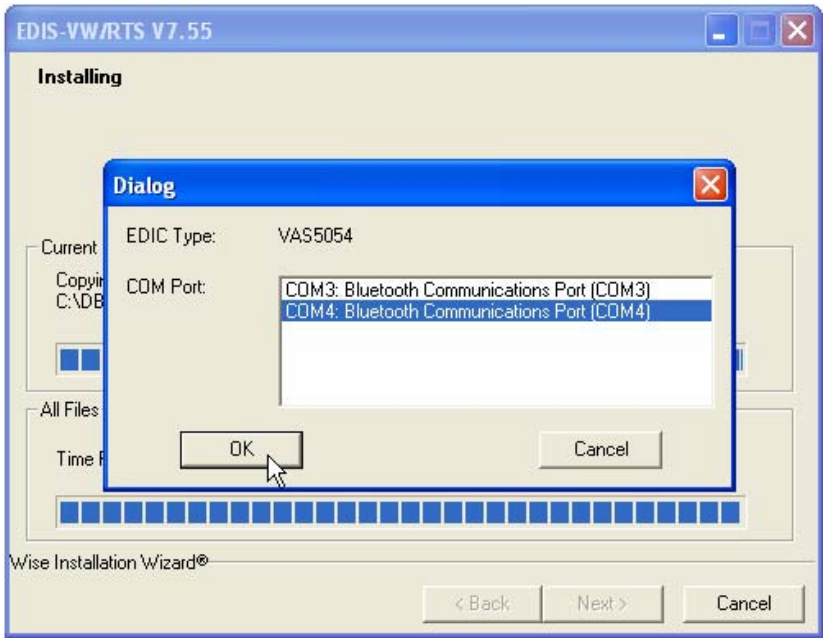

Fig. 3-19 Selecting the COM port connected to the VAS 5054A

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If the following error message (Fig. 3-20) is displayed, your VAS 5054A is outside the range of your Bluetooth adapter or you have selected the wrong COM port.

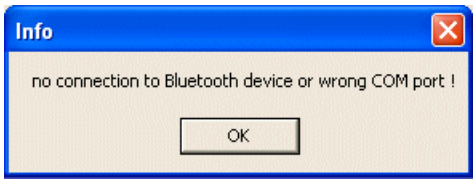

Fig. 3-20 Error message informing you that connecting to the VAS 5054A failed

Click **OK**. The installation is completed without setting up the VAS 5054A. In your Bluetooth software, look up the COM port to which your VAS 5054A is connected. If necessary, have the Bluetooth software search for Bluetooth devices again and connect to the VAS 5054A.
After installation is complete, launch the **EDIC Hardware Installation** program from the Program Manager Group of your diagnostic application and repeat the installation (see section 3.7).

13. Conclude the setup program. The VAS 5054A can now be accessed by your diagnostic application. Please note that, after you have started your application, loading the firmware for the first time will take approx. one minute.

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3.6 Changing the PIN

The VAS 5054A is delivered with the Bluetooth PIN preset to the 9-digit numeric serial number of the device.

Before putting the device into operation, you need to change the Bluetooth PIN according to Volkswagen specifications:

The PIN must consist of at least 6 characters comprising letters and numbers. You can also use special characters.

Changing the preset Bluetooth PIN

Connect your VAS 5054A to your computer, if possible via USB. Launch the **Diagnostic Interface Configuration Utility** configuration program from the Start menu of your diagnostic application. When connecting the device via Bluetooth, please read chapter 5.

In the PIN box of the Bluetooth Parameter section, enter a new PIN according to Volkswagen specifications: The PIN must consist of at least 6 digits containing letters and numbers. Make sure the Security Mode is set to 4 (see Fig. 3-21).

Confirm your changes with **OK**. The next time a connection to the VAS 5054A is established, the Bluetooth software will ask you to enter the new PIN.

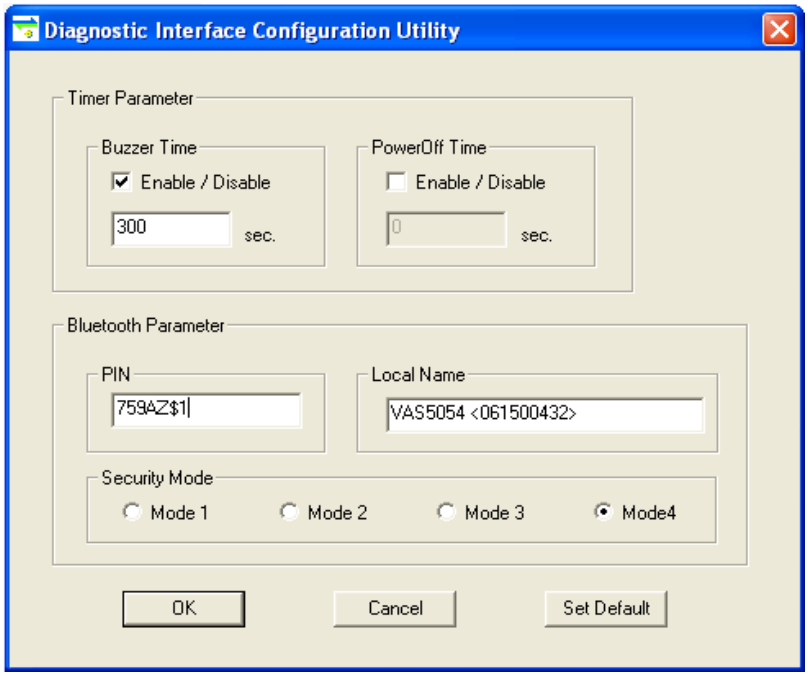

Fig. 3-21 Changing the Bluetooth PIN of the VAS 5054A

The program is described in detail in chapter 5.

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3.7 Manually Adding a VAS 5054A

If you have already installed a different EDIC or if you were not asked to install the VAS 5054A during the installation process, you need to install it manually.

Launch the **EDIC Hardware Installation** program from the Start menu of your diagnostic application.

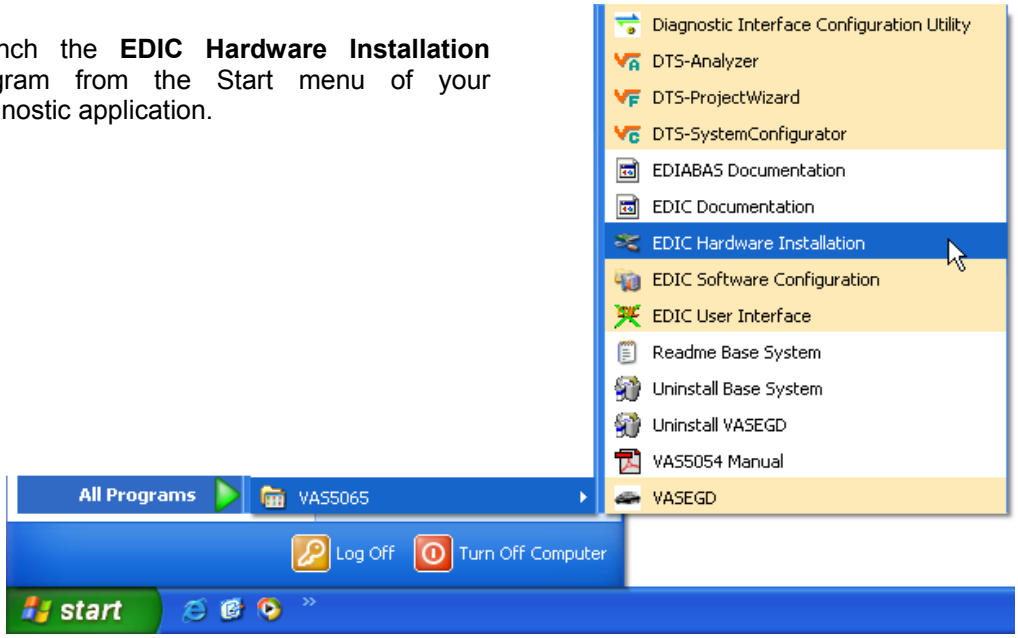

Fig. 3-22 Launching the EDIC Hardware Installation program

Click the **Add EDIC** button. Select **VAS 5054** from the list and click **OK**.

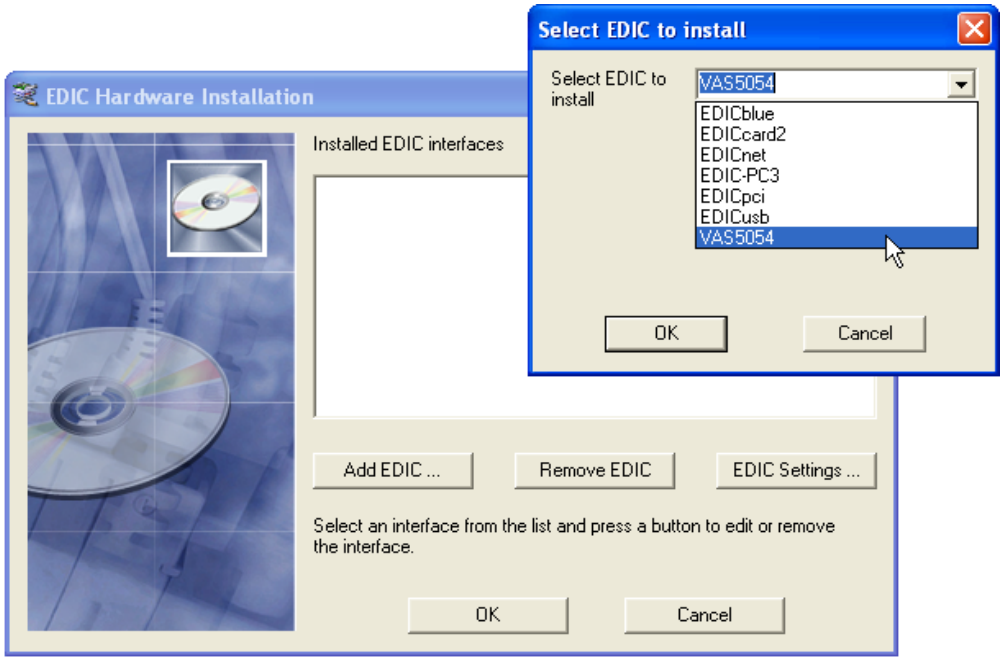

Fig. 3-23 Selecting the diagnostic interface to be installed: VAS 5054

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Make sure the VAS 5054A has been correctly configured in your Bluetooth software and is within your PC's range. Click **OK**.

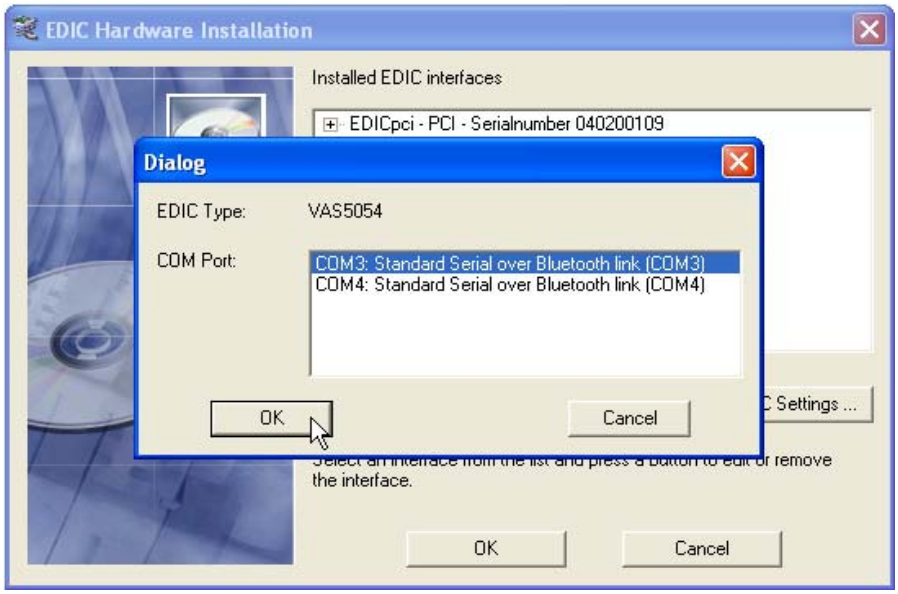

Fig. 3-24 Selecting the COM port connected to the VAS 5054A

Select the COM port that was assigned to the VAS 5054A by your Bluetooth software. Confirm with **OK**. Then exit the program with **OK**.

If several interfaces are installed on your system, you are automatically asked to select an interface when you launch your diagnostic application.

3.8 Connecting and Installing the VAS 5054A via USB

In special cases you can also operate the VAS 5054A using a USB cable connection:

- To configure the VAS 5054A in the *Diagnostic Interface Configuration Utility* program (Bluetooth settings, activation of the built-in buzzer, auto power off),
- For use in areas in which wireless communication is not permitted,
- For applications that require a high-performance connection to the vehicle.

If you want to install the VAS 5054A only via USB when installing the application software, do not yet connect the VAS 5054A to your PC. When the **Select EDIC to install** dialog box opens, click **Cancel**. The application software is completed without installing a diagnostic interface.

Plug the VAS 5054A into the diagnostic connector. Open the rubber cover on the front of the VAS 5054A and attach the mini USB connector of the supplied USB cable. Connect the USB cable to a USB port on your application PC.

The following description assumes that the diagnostic application has already been installed.

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Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Fig. 3-25 Windows Found New Hardware Wizard

Windows automatically detects the VAS 5054A through Plug and Play. In Windows 2000 the drivers are installed without a confirmation prompt, in Windows XP the Found New Hardware Wizard launches (see Fig. 3-25). When prompted if you want to connect to Windows Update, select **No, not this time** (Fig. 3-25). Click **Next>** to continue installation. Select the **Install the software automatically** radio button and click **Next>** (Fig. 3-26). Click **Finish** to close the wizard (Fig. 3-27).

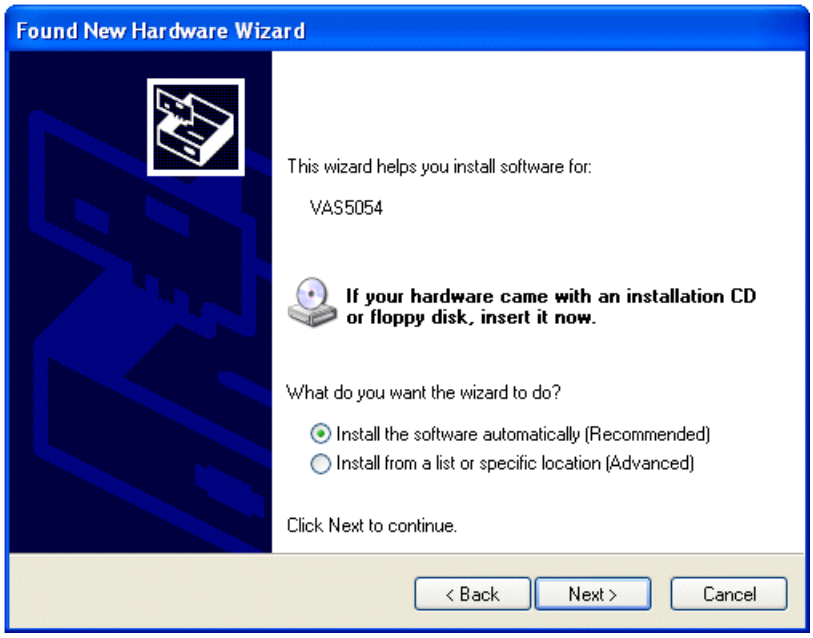
Found New Hardware Wizard
This wizard helps you install software for:
VAS5054
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Fig. 3-26 Automatic installation of the driver files for the VAS 5054A

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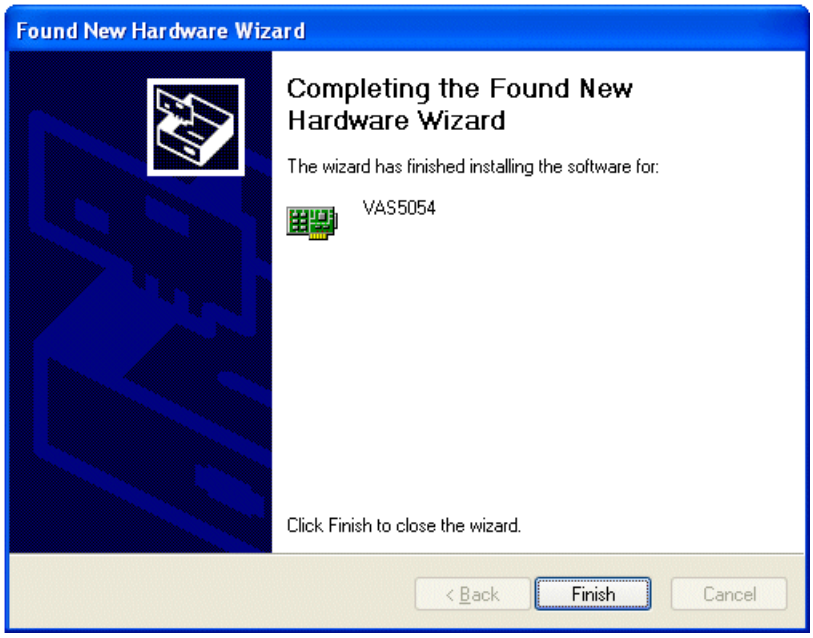

Fig. 3-27 Completing the wizard

Your PC is now set up for a USB connection to the VAS 5054A and ready for use with your diagnostic application.

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4 Using the VAS 5054A with a Diagnostic Application

Start your diagnostic application. If no diagnostic application has been installed on your PC before, a dialog box will be displayed when you start the application for the first time. In the dialog box, enter the distribution center/importer number and the dealer number. Information on how to obtain these numbers is provided in the documentation that came with your diagnostic application.

If you have changed the PIN of the VAS 5054A, you are prompted to enter the new PIN in the application PC. Type in the new PIN and confirm your entry.

The firmware is loaded into the VAS 5054A. This will take about a minute when you start the application for the first time. The next time, your VAS 5054A will be available in a few seconds.

Note

As Bluetooth connections have a low bandwidth, processes involving the transmission of large data volumes will take longer than with vehicle interfaces connected directly to the PC.

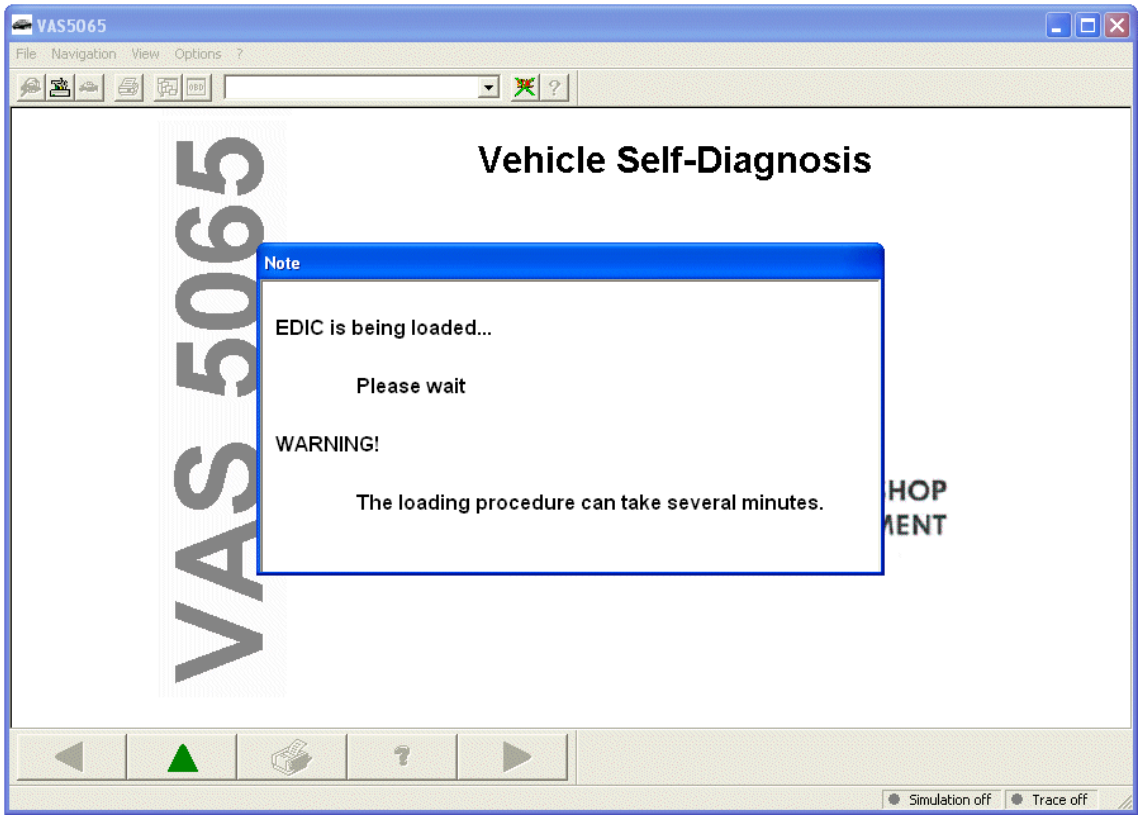

Fig. 4-1 User interface of the VAS 5065 immediately after startup

After loading the VAS 5054A firmware, the startup screen of your diagnostic application is displayed.

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5 Diagnostic Interface Configuration Utility

You can configure the Bluetooth settings of the VAS 5054A and set the built-in buzzer and auto power off timers with the **Diagnostic Interface Configuration Utility** program.

To launch the program, go to the Windows Start menu and select **Diagnostic Interface Configuration Utility** on the menu of your diagnostic application.

Configuration can be done via USB or Bluetooth. USB should be preferred.

Configuration via Bluetooth is only possible if no VAS 5054A is connected via USB. A list of the COM ports on your computer is then displayed automatically. Please choose the one your VAS 5054A is connected to.

Note

If you do not know the PIN of the VAS 5054A, you cannot connect via Bluetooth! Use the USB cable to configure the VAS 5054A.

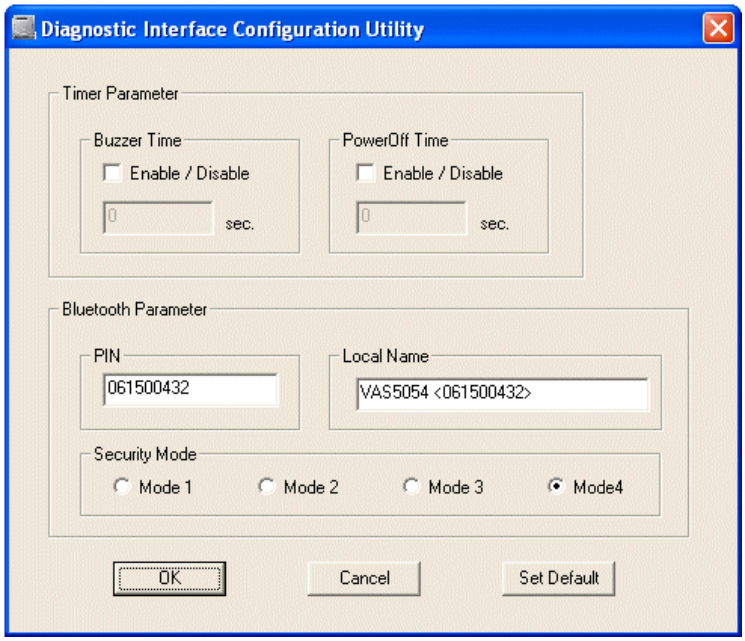

Fig. 5-1 Configuring the VAS 5054A

The following options are offered:

Timer Parameter/ Buzzer Time	The built-in buzzer serves to avoid forgetting the device in the vehicle. The VAS 5054A can be configured to sound an alarm after a specified time.
Buzzer Time Enable / Disable	Select this check box to activate the buzzer in the VAS 5054A.

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Buzzer Time sec.	The value you enter in this box defines the time after which the alarm is sounded if the connection to the application PC is interrupted (USB cable disconnected or Bluetooth connection closed). A Bluetooth connection is also interrupted when the diagnostic application is in the startup screen. The minimum timeout is 15 seconds, the maximum timeout 65535 seconds.
Timer Parameter/ Power Off Time	The VAS 5054A features a standby mode which ensures load reduction for the vehicle battery during downtimes. The device will be powered off automatically after a user-selectable time. While in standby mode, the current consumption is typically 5 mA at 12V. The device switches on again when the ignition signal state changes from 0V to the positive vehicle voltage (e.g. 12 V).
Power Off Time Enable / Disable	Select this check box to activate auto power off.
Power Off Time sec.	The value you enter in this box defines the time after which the device powers off if the connection to the application PC is interrupted (USB cable disconnected or Bluetooth connection closed). A Bluetooth connection is also interrupted when the diagnostic application is in the startup screen. The minimum timeout is 15 seconds, the maximum timeout 65535 seconds.
Bluetooth Parameter	
PIN	Input box for the PIN. The PIN protects Bluetooth devices from unauthorized access. According to Volkswagen specifications, the PIN has to have at least 6 digits containing letters, numbers and special characters. The maximum PIN length is 16 characters. When you change the PIN, you have to enter the new PIN in your Bluetooth software as well. The Bluetooth software will prompt you for the new PIN when you establish a connection.
Local Name	Input box for the device name. When you click into this box, the original device name is cleared. Enter a new name. The serial number of the VAS 5054A is automatically appended, enclosed in angle brackets. This name is displayed by your Bluetooth software when you search for Bluetooth devices. After changing the device name, you have to re-enter the PIN in the Bluetooth software.

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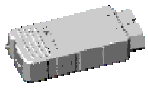

Security Mode	Security settings for the Bluetooth connection. The security modes are defined as follows: Mode 1: No security Mode 2: Security at service level (PIN required) Mode 3: Security at connection level (PIN required) Mode 4: Security at connection level with encryption (PIN required) The specifications prescribed by Volkswagen require the use of Security Mode 4. After changing the security mode, you have to re-enter the PIN in the Bluetooth software.

By clicking **Cancel**, you can cancel the program at any time without changing the configuration.
Clicking **OK** applies the data to the device.
Selecting **Set Defaults** applies the defaults (Buzzer Time and Power Off Time = Disable, Security Mode = 4, PIN = Serial number of the VAS 5054).

The program closes automatically after transferring the new settings to the VAS 5054A.

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6 Frequently Asked Questions (FAQs)

6.1 General Information

FAQ 1 Can I use the VAS 5054A with Windows versions earlier than Windows XP Service Pack 2?

You can basically use Windows versions from Windows 2000 Service Pack 4 onwards. However, there is no specific Bluetooth adapter recommendation for these operating systems. The recommended Bluetooth adapter VAS5054/2 is only released for the Microsoft Bluetooth software that comes with Windows XP Service Pack 2. Therefore, no support can be offered if installation problems occur under these operating systems.

Windows 95, 98, ME, NT 4 cannot be used.

FAQ 2 What specifications does Volkswagen make regarding data security for wireless Bluetooth connections?

To prevent unauthorized access to the Remote Diagnosis Head and the application PC by third parties, specific security measures must be taken:

- Use a PIN consisting of at least six digits containing numbers, letters and special characters.
- Use the highest Bluetooth security mode (Security Mode 4).
- Disable all services that are not needed.
- Disable general discovery.

How to make the required settings is described in chapter 5.

FAQ 3 What happens if I move out of range during vehicle diagnostics?

The connection is interrupted. The tester will not display an error message at first. Only when you select a function that requires a connection to the vehicle system, the error message *The interface (EDIC) does not respond* or *The connection to the interface is disrupted* will appear.

Move back into range. Click **Aborting** and restart the vehicle diagnostics.

FAQ 4 What happens if the VAS 5054A is out of range when I start the diagnostics?

It cannot connect to the diagnostic interface. After a while, the error message *The EDIC-API delivers a system error* will appear.

Move back into range. Click **Aborting** and restart the vehicle diagnostics.

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FAQ 5 Where can I look up the PIN of my VAS 5054A? How can I change the Bluetooth PIN?

Use the **Diagnostic Interface Configuration Utility** program. A detailed description is provided in chapter 5.

6.2 Bluetooth Software

FAQ 6 How can I find out which COM port is assigned to my VAS 5054A?

If you are using the Bluetooth software supplied with Windows XP Service Pack 2, open the Bluetooth settings by selecting *Bluetooth Devices* in Control Panel. Click on the COM Ports tab. A list of the Bluetooth COM ports is displayed. The outgoing COM port to the VAS 5054A is the one assigned.

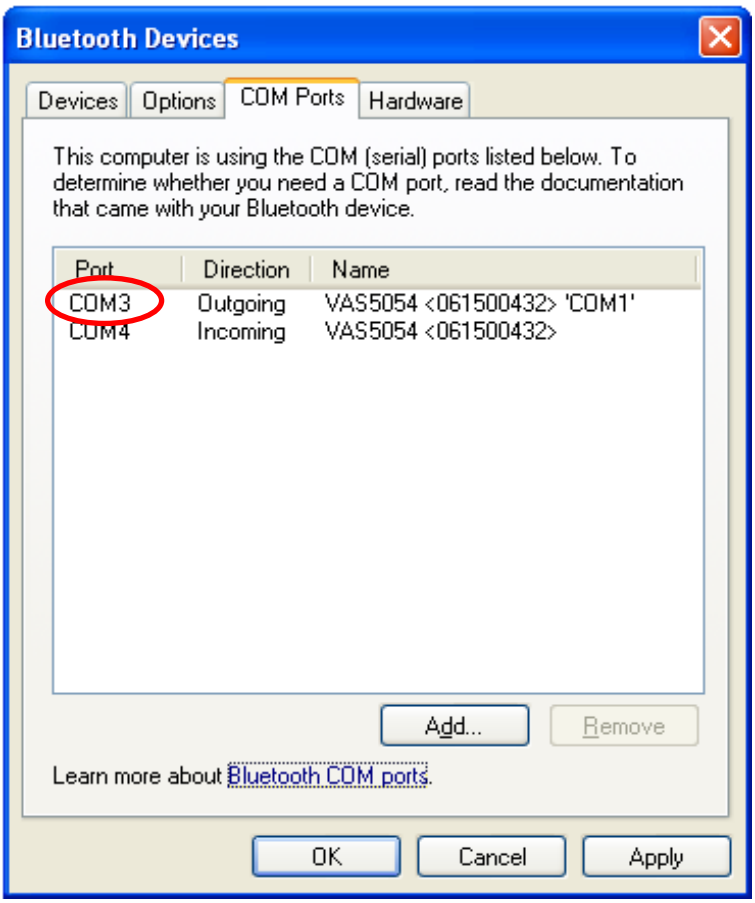

Fig. 6-1 List of the COM ports in the Windows XP Service Pack 2 Bluetooth software

If you are using other Bluetooth software, please refer to the relevant sections in the documentation that came with your Bluetooth adapter.

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FAQ 7 I am using Bluetooth software that is not described in this manual. What do I have to do to use the VAS 5054A with this Bluetooth software?

A wide variety of Bluetooth adapters is available in the market today. The manufacturers provide matching software packages for the setup and operation of their Bluetooth adapters. In most cases, this software only allows use of the associated Bluetooth adapter, which means that an adapter from a different manufacturer cannot be used with this software. The individual software packages differ in functionality and use.

Therefore, this manual cannot provide any details on the individual installation steps. The following description illustrates the general procedure. How these steps are implemented in your specific Bluetooth software is described in your Bluetooth adapter's documentation. Follow the basic procedure described in this manual as far as possible.

Check which Bluetooth software your Bluetooth adapter uses. If you have already installed the Bluetooth software, please read the relevant information provided on the software's *About* or *Help* menu. If you have not yet installed your Bluetooth software, start the installation and read the License Agreement to see which company is given as the Licensor. The Licensor of the Bluetooth software is usually not the manufacturer of the Bluetooth hardware, but in most cases one of the following companies: Broadcom/Widcomm, IVT Corporation or Toshiba.

The Bluetooth software provided on your computer may not be suitable for use with the VAS 5054A. In that case you may have to uninstall the existing Bluetooth software and, instead, use the recommended VAS5054/2 Bluetooth adapter together with the Bluetooth software supplied with Windows XP Service Pack 2.

Note

Please note that no support is provided on the use of any of the Bluetooth software versions listed in the following table. Problems have occurred with some of these software versions when used in conjunction with the VAS 5054A.

It is advisable to use Microsoft's Bluetooth software that comes with Windows XP Service Pack 2. A suitable Bluetooth adapter is available as an option (item no. VAS5054/2).

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The following other standard Bluetooth software has been tested for use with the VAS 5054A:

Software	Remarks
Broadcom/Widcomm Bluetooth Software	A problem was encountered with the current versions of the Bluetooth software from Broadcom: No Bluetooth connection can be established to VAS 5054A devices set to Security Mode 4. The VAS 5054A is delivered preset to this security mode. The specifications prescribed by Volkswagen do not permit setting the device to a lower security mode. If this problem occurs with the version you are using, you have to uninstall the software. Order and use the recommended Bluetooth adapter VAS5054/2.
IVT Blue Soleil Bluetooth Software	No problems encountered so far
Toshiba Bluetooth Software	Long-term stability problems were encountered with all the versions of the Bluetooth software from Toshiba that have been tested so far: After prolonged intense communication with a vehicle system (as is usually the case e.g. when using the self-diagnosis function *Read measuring value block*), the software might fail to respond. As there is no possibility to prevent this from happening, it is strongly recommended not to use Bluetooth adapters that come with this software. Use the recommended Bluetooth adapter VAS5054/2 instead.

Basic installation procedure

Make sure your Bluetooth software supports the *Serial Port Profile (SPP)*, which it usually will. You cannot use Bluetooth software that does not support this profile.

The Bluetooth software for your Bluetooth adapter can detect the VAS 5054A via Bluetooth. A virtual serial COM port is installed on your application PC. The Bluetooth software uses this Bluetooth COM port to establish a connection between the VAS 5054A and the application PC.

If your Bluetooth hardware was supplied with Bluetooth software that is not described in this manual, please use the following basic installation procedure:

1. Keep the PC's Bluetooth adapter ready, but do not connect it yet. If you have already plugged in the adapter, click **Cancel** (if the Windows hardware wizard appears), remove the adapter and restart your PC.

2. Install the software package supplied with your adapter. When prompted by the setup program, connect the Bluetooth adapter and continue installation.

   Note: The following steps might also be part of the installation process for your Bluetooth software.

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3. After installation is complete, the VAS 5054A must be detected by the Bluetooth software. The software offers a function for listing all the Bluetooth devices in range. Make sure your VAS 5054A is connected to the power supply and is within range. The VAS 5054A then has to appear in this list. Select the VAS 5054A the list and have the software discover the services provided by the VAS 5054A (a Bluetooth serial port is the only service that is allowed to be discovered). A prompt appears asking you to enter the PIN of the VAS 5054A. Type in the serial number of the VAS 5054A, which is indicated on the ID plate.

4. Using the Bluetooth software, connect to the VAS 5054A. The connection may have already been established during service discovery. A COM port for outgoing connections, which was created by the Bluetooth software, is displayed on your PC. You will need the identifier of this COM port when installing the application software.

5. Install the application software as described in sections 3.5 to 3.7.

6.3 Error Messages during Self-Diagnosis

FAQ 8 I get the error message: No EDIC is installed. What does that mean?

No VAS 5054A is currently installed. Connect to the VAS 5054A with your Bluetooth software. Note down the COM port that your Bluetooth software has assigned to the VAS 5054A.

Install the VAS 5054A you want to use with your diagnostic application. You will find a detailed description of how this is done in section 3.7.

FAQ 9 I get the error message *The EDIC-API delivers a system error*. In the details, the error IFH-0002 (NO RESPONSE FROM INTERFACE) is indicated. What does that mean?

The connection to the VAS 5054A has been interrupted. Possible reason:

- The VAS 5054A was (temporarily) disconnected from the power supply during a diagnostic session.

Plug the VAS 5054A back in. Click **Aborting** and restart your diagnostic session.

FAQ 10 I get the error message *The EDIC-API delivers a system error*. In the details, the error IFH-0003 (DATATRANSMISSION TO INTERFACE DISTURBED) is indicated. What does that mean?

The connection to the VAS 5054A has been interrupted. Possible reason:

- The VAS 5054A was (temporarily) disconnected from the power supply during a diagnostic session.

Plug the VAS 5054A back in. Click **Aborting** and restart your diagnostic session.

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FAQ 11 I get the error message *The EDIC-API delivers a system error*. In the details, the error IFH-0020 (DRIVER ERROR) is indicated. What does that mean?

The driver cannot open the Bluetooth COM port. Consequently no connection can be established to the VAS 5054A. Possible reasons:

The Bluetooth software displays an error message when opening the COM port because the VAS 5054A is out of range or not connected to the diagnostic connector.

Move back into range and/or plug the VAS 5054A back in. Click **Aborting** and restart your diagnostic session.

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7 Appendix

7.1 VAS 5054A Specifications

Dimensions	Approx. 114 x 48 x 25 mm
Weight	Approx. 100 g, with USB cable approx. 120g
Color	RAL 7021
Power supply	8 ... 18V via vehicle diagnostic connector
Current consumption	Approx. 200 mA at 12V
PC interface	Bluetooth V1.2 Class 2 (range approx. 10 m) USB V2.0 Full Speed, 12 Mbits/s, mini USB jack (type B)
Vehicle interface	Diagnostic connector in acc. with ISO 15031-3 or SAE J1962
CAN	One CAN 2.0B channel with CAN high-speed physical bus in acc. with ISO 11898-2 and CAN low-speed physical bus in acc. with ISO 11898-3
ISO 9141-2	K- and L-line for 12V vehicle systems
SAE J1850	SAE J1850 PWM and VPW
Digital input	For ignition-on signal (KL15)
Power save mode	Automatic power off after a settable time, power-on by ignition
Temperature range	Operation: 0...+50 °C Storage: -25...+85 °C

7.2 Status Display

The VAS 5054A is provided with a status indicator which shows the status of communication with the application PC via USB or Bluetooth.
In the case of a connection failure to the application PC, the indicator flashes every second. As soon as a connection to the PC has been established, the status indicator is on continuously. During data exchange via Bluetooth or USB, the status indicator flashes according to data volume.

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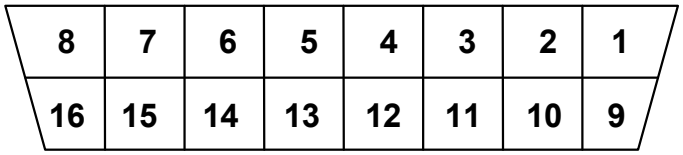
7.3 Pin Assignment of the Vehicle Connector

The vehicle signals of the VAS 5054A are assigned to the 16-pin male connector in accordance with SAE-J1962 and ISO 15031-3.



No.	Signal name
1	KL15 (switched vehicle battery voltage)
2	J1850-P
3	n.c.
4	KL31 vehicle ground
5	KL31 vehicle ground
6	CAN-H (high-speed CAN)
7	ISO-K
8	CAN-H (low-speed CAN)
9	CAN-L (low-speed CAN)
10	J1850-N
11	n.c.
12	n.c.
13	n.c.
14	CAN-L (high-speed CAN)
15	ISO-L
16	KL30 vehicle battery voltage

n.c. not connected

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7.4 Self-Diagnosis

To test the VAS 5054A, you can run a self-diagnosis by selecting *VAS5054 Self-Diagnosis* on the *Administration* menu of the diagnostic application.

The self-diagnosis routine tests important functions of the VAS 5054A.

The successful completion of the self-diagnosis is indicated by *OK*.

If an error occurs, an error number followed by *n.i.O* (Not OK) is displayed.

The following table shows the error causes assigned to the individual error numbers:

Error number	Error description / tested function
1, 2, 3	Internal error
8	Error on vehicle bus access K-line
11	Error on vehicle bus access L-line
13	Error on vehicle bus access high-speed CAN
14	Error on vehicle bus access low-speed CAN
15	Error on vehicle bus access J1850-PWM
16	Error on vehicle bus access J1850-VPW

The self-diagnosis also checks the connection to the PC:

- When you have connected the VAS 5054A with the supplied USB cable, the function of the USB interface is tested.
- When you have connected the VAS 5054A via Bluetooth, the function of the Bluetooth interface is tested. This requires a configured Bluetooth connection.

To ensure proper execution of the self-diagnosis, make sure that the vehicle bus is connected according to the bus specification and that the pins are open.

Note

For technical reasons the self-diagnosis can only test important functions of the VAS 5054A.

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7.5 EC Declaration of Conformity

CE

EG- Konformitätserklärung
EC – Declaration of Conformity

Wir / *We*,

Softing AG
Richard-Reitzner-Alllee 6
D-85540 Haar (Germany)

erklären hiermit, dass das Produkt / *declare that the product*

Modell / *model*:

VAS5054A

Typ / *type*:

Vehicle Communication Interface
(with Bluetooth™)

mit den Anforderungen der EMV Richtlinie 2004/108/EG und der R&TTE Richtline 1999/5/EG übereinstimmt.
/ complies with the requirements of the EMC directive2004/108/EC and the R&TTE directive 1999/5/EC.

Angewandte harmonisierte Normen / *Harmonised standards applied*:

- EN 55022:2006
- EN 55011:1998 + A1:1999 + A2:2002
- EN 61000-6-4:2001
- EN 61000-6-2:2005

- EN 300328 (2004-11)
- EN 301489-1, -17 (2002-08)
- EN 50371:2002
- EN 60950-1:2006

- ISO 7637-2:2004
- ISO 7637-3:1995

Haar, 25.10.2007

Dr. Michael Siedentop
Vorstand / *member of board*

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7.6 Approvals

Operation of the VAS 5054A via the Bluetooth™ interface is permitted only in the following countries:

- EU countries
- Switzerland
- Liechtenstein
- Norway
- Iceland
- Monaco

- U.S.A
- Hong Kong

Approvals for other countries are in progress.

Notice for the EU countries, Switzerland, Liechtenstein, Norway, Iceland and Monaco:

See also: 7.5 EC Declaration of Conformity

Warning

This device is classified as Class A equipment. This equipment may cause radio interference in residential areas; in this event, the operating company may be required to take appropriate measures.

Remark

If direct or indirect static discharge (ESD) occurs during USB communication from the application PC to the VAS 5054A, data transmission might be interrupted.

Notice for the U.S.A:

This device contains a transmitter with FCC-ID: R7TAMB2300,

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in an industrial environment. This equipment generates,

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uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice for Canada:

Canadian Compliance Statement

This Class A Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique da la classe A respecte les exigences du Règlement sur le matériel brouilleur du Canada.

This device complies with the RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

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7.7 Safety Notice

Note

The VAS 5054A is supplied with power by the vehicle's OBDII interface. The KL30 line of the OBDII interface must be protected by a safety fuse (current rating ≤ 40A)!

7.8 Support

Please follow the steps detailed in this manual, which describe the installation and operation of the Bluetooth adapter and the VAS 5054A.

If you have any technical questions about the installation and use of the VAS 5054A, which are not dealt with in this manual, please contact us at:

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In case of questions regarding your diagnostic application, please contact the technical support given in the relevant documentation.

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